

ABSTRACT OF THE DISCLOSURE

The present invention provides an increased degree of uniformity of radiation dose distribution for the interior of a diseased part. A particle beam therapy system includes a charged particle beam generation apparatus and an irradiation apparatus. An ion beam is generated by the charged particle beam generation apparatus. The irradiation apparatus exposes a diseased part to the generated ion beam. A scattering device, a range adjustment device, and a Bragg peak spreading device are installed upstream of a first scanning magnet and a second scanning magnet. The scattering device and the range adjustment device are combined together and moved along a beam axis, whereas the Bragg peak spreading device is moved independently along the beam axis. The scattering device moves to adjust the degree of ion beam scattering. The range adjustment device moves to adjust ion beam scatter changes caused by an absorber thickness adjustment. The Bragg peak spreading device moves to adjust ion beam scatter changes arising out of an SOBP device. These adjustments provide uniformity of radiation dose distribution for the diseased part.